POCKETBEAGLE HEADERS

P1

USBD_VBUS	(U1.M14)USB1.DRVVBUS	1 2	(U1.F2)AIN63.3V
USB1_VBUS		3 4	ACC_INT2
USB1_VBUS		5 6	SPI_nCS
USB1_D−		7 8	SPI_CLK
USB1_D+		9 10	SPI_MISO
		11 12	SPI_MOSI
GND ID PIN FOR HOST GND		13 14	+3.3V
GND		15 16	GND
ADC_GND		17 18	ADC_PWR
ANALOG_IN	(U1.B4)PRU−0.16	19 20	
(U1.B8)AIN11.8V		21 22	
(U1.B6)AIN21.8V		23 24	SYS_5V
(U1.C6)AIN31.8V		25 26	I2C_SDA
(U1.C7)AIN41.8V		27 28	I2C_SCL
(U1.C4)PRU−0.7		29 30	UART0_TX
(U1.A3)PRU−0.4		31 32	UART0_RX
(U1.A2)PRU−0.1		33 34	ACC_INT1
(U1.F1)		35 36	PWM_BLUE

P2

PWM_GREEN		1 2	(U1.T16)
PWM_RED		3 4	(U1.R15)
	(U1.P15)UART4.RX	5 6	(U1.T15)
	(U1.R16)UART4.TX	7 8	(U1.N14)
	(U1.B11)I2C1.SCL	9 10	(U1.R13)
SYS_5V	(U1.A11)I2C1.SDA	11 12	(U1.T11)PWR.BTN
GND	SYS_5V	13 14	VIN.BAT
		15 16	BAT.TEMP
	(U1.T7)	17 18	(U1.P7)PRU−0.15
GND	(U1.T5)	19 20	(U1.R7)
+3.3V		21 22	(U1.T6)PRU−0.14
		23 24	(U1.P6)
	(U1.C13)SPI1.MOSI	25 26	(U1.C3)PRU−0.6
	(U1.C12)SPI1.MISO	27 28	(U1.B1)PRU−0.3
	(U1.C5)SPI1.CLK	29 30	(U1.B2)PRU−0.2
	(U1.A4)SPI1.CS	31 32	(U1.B3)PRU−0.5
	(U1.R6)	33 34	
GPIO_BTN	(U1.F3)AIN53.3V	35 36	(U1.N13)AIN71.8V

RESET#

USB1 HOST

J1 USB_A
VBUS
FB4 — USB1_VBUS
D+ — USB1_D+
D− — USB1_D−
Shield GND
FB2
GNDPWR GND

U3
TPD45012DRY
D+ VBUS
D− NC
ID
C7 0.1uF — USB1_VBUS
GND GND

EMULATED 7 SEGMENTS

5mA CURRENT LIMIT

U1
MCP23S18−E/MJ

RESET# 13 RESET
14 INTA
SPI_nCS 9 CS
SPI_CLK 10 SCK
SPI_MOSI 11 SI
SPI_MISO 12 SO

GPB0 24
GPB1
GPB2
GPB3
GPB4
GPB5
GPB6
GPB7

GPA0 15
GPA1 16
GPA2 17
GPA3 18
GPA4 19
GPA5 20
GPA6 21
GPA7 22

+3.3V 8 VCC
C1 0.1uF 23 GND
25 EP
GND GND

RN1 — LDA2 LDB2 LDC2 LDD2 220
RN2 — LDE2 LDF2 LDG2 220
RN3 — LDA1 LDB1 LDC1 LDD1 220
RN4 — LDE1 LDF1 LDG1 220

0603 RED LEDS 2.2Vf

LD4 — LDA1
LD11 — LDA2
LD2 LD7 LD9 LD14
LDF1 LDB1 LDF2 LDB2
LD5 — LDG1 LD12 — LDG2
LD3 LD8 LD10 LD15
LDE1 LDC1 LDE2 LDC2
LD6 — LDD1 LD13 — LDD2

+3.3V (various)

DEBUG CONSOLE

FB3 — USBD_VBUS   USBD_VBUS   FTDI_3V3

10118192−0001LF
X1
CGND (×6)
VBUS
D−
D+
ID

FB1
GNDPWR GND

R9 22
R10 22
C4 10nF
GND

U4
FT230XQ
3V3OUT VCC VCCIO
USBDM
USBDP
RESET
TXD 15 — UART0_RX
RXD 2 — UART0_TX
RTS 16
CTS 4
CBUS0 12
CBUS1 11
CBUS2 5
CBUS3 14
GND

C5 0.1uF
GND

FTDI_3V3 USBD_VBUS
C6 0.1uF C8 0.1uF
GND GND

FTDI_3V3

RGB LED

LD1 +3.3V
RN5 220
1 B 6
2 G 5
3 R 4

PWM_BLUE — R1 4.7K — Q1
R4 100K
GND

PWM_GREEN — R2 4.7K — Q2
R5 100K
GND

PWM_RED — R3 4.7K — Q3
R6 100K
GND

ACCELEROMETER

U2
MMA8452QR1
+3.3V
14 VDD SCL 4 — I2C_SCL
1 VDDIO SDA 6 — I2C_SDA
2 BYP
INT2 9 — ACC_INT2
INT1 11 — ACC_INT1
12 GND
10 GND
5 GND
SA0 7
+3.3V +3.3V
R7 4.7K R8 4.7K
C2 0.1uF C3 0.1uF
GND GND GND

THUMBWHEEL

RV1
3352T−1−502LF
ADC_PWR
ANALOG_IN
ADC_GND

PUSH BUTTON

+3.3V
4.7K R11
SW1 BTN
GPIO_BTN
GND

QWERTY Embedded Design, LLC
Sheet: /
File: baconbits.sch
Title: BaconBits Minicape
Size: B   Date: 2018−01−29   Rev: R0
KiCad E.D.A. kicad (2017−08−02 revision 9760937)−master   Id: 1/1